



# CDF Operations Report

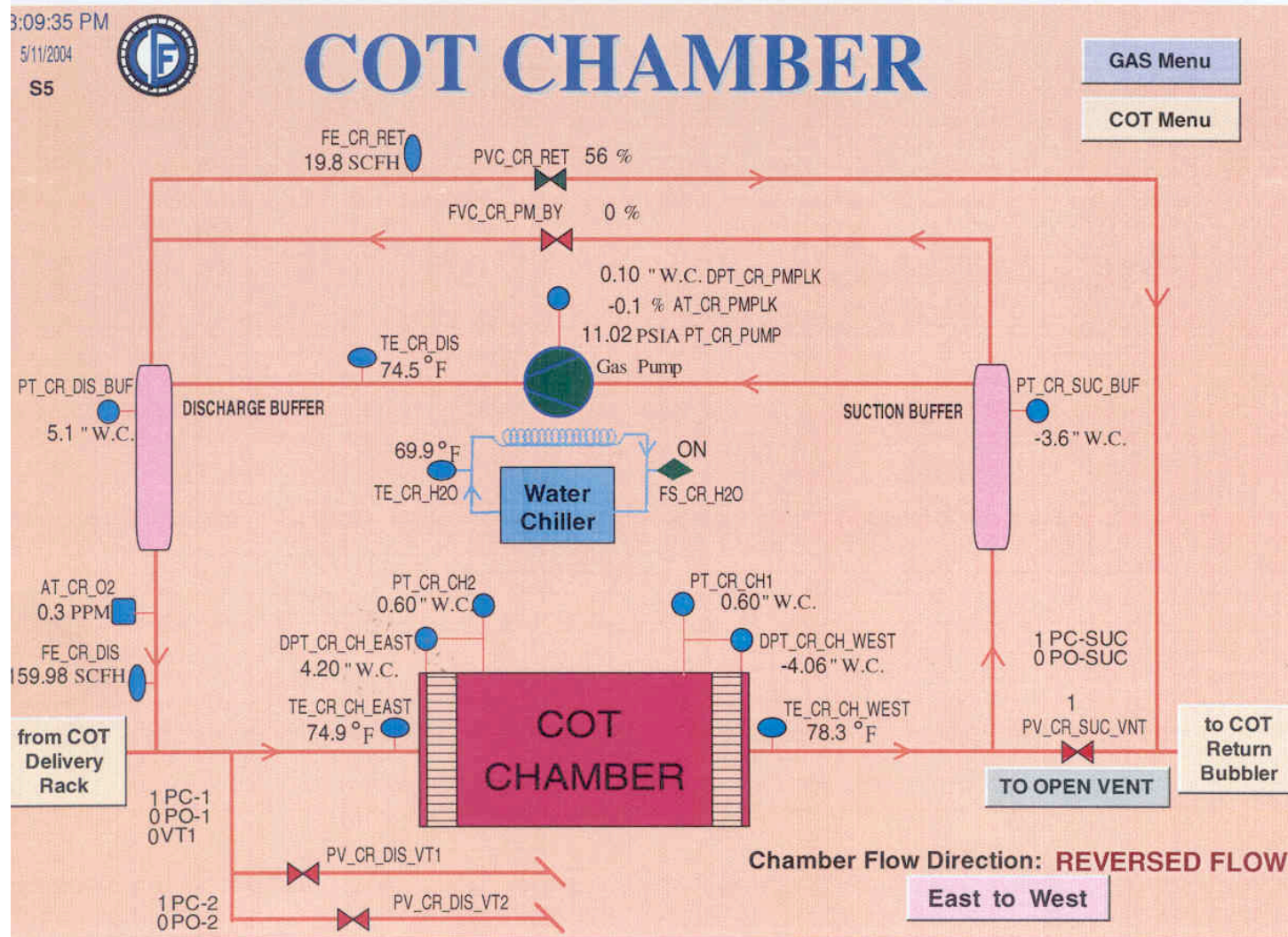
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May 17, 2004

All Experimenters Meeting



# COT Gas Recirculation





# COT Gas Recirculation

- Tests of the recirculation system during last week.
  - Recirculated through the chamber on and off from Tuesday.
- Switched to recirculation mode Friday afternoon.
  - Put COT to full HV and set the triggers appropriately.
  - Smooth data taking Fri-Sat night in store 3491.
- Ran this way until Sunday morning (~40 hours) when a sudden increase was seen in the O<sub>2</sub> level in the COT gas.
  - Went from ~200ppm to ~1000ppm
  - COT turned off
  - Investigations indicate there is a leak on the return side (vacuum)
- We requested an access to find and fix the leak. Estimate 4 to 8 hours; began at ~12:00.



## Other Access Work

- Saturday morning a power supply failed when the store 3491 was terminated.
  - VME supply for central calorimeter.
  - Cycling the 400 Hz power was ineffective.
  - Required an access (~2hr) to replace the supply.
  - Thanks to crew chief and run coordinator for granting that access on short notice.



## Store 3494 Quench

- Store 3494 began with rather high losses
  - Abort gap losses were 32kHz, proton losses about 26kHz.
  - Tuning brought the losses down.
  - We ramped up the detector.
- Quench occurred 10 min. after we ramped up the detector.
- The silicon detector received a large radiation dose ( $\sim 140$  rads) in about 200 microseconds.
  - Fast doses are more damaging than slow accumulation.
- We were concerned for the safety of the silicon detector and kept it out of the following store (3500).



## SVT Beam Widths

- We are working on code to determine beam widths online with the silicon vertex trigger (SVT).
- The widths will go into ACNET.

Unvalidated results from store 3481 test.  
Barrels cover different regions along beam.

Barrel	X width (um)	Y width (um)
0	44	32
1	34	23
2	26	34
3	21	29
4	31	43
5	35	52



# Database Repair Update

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- Database problem began the previous Friday.
  - Interfered with data taking Friday 5/7 to Sat 5/8.
- Server rebooted on Mon 5/10 to add new disk to system.
- Sun Microsystems support came on Wed 5/12 and replaced a memory module.
- No problems since.



## This Week's Stores

Date	Store	Inst Lum (initial)	Delivered Lum [nb <sup>-1</sup> ]	Lum to tape nb <sup>-1</sup> (ε)	Comment
Mo 5/10	3481	62.2e30	3146	2641 (84%)	<b>Recirc., tornado</b>
We 5/12	3487	50.0e30	1426	1206 (85%)	<b>Clean abort</b>
Th 5/13	3491	50.1e30	2585	2185 (85%)	<b>L3, COT full HV</b>
Sa 5/15	3494	52.9e30	68	11 (16%)	<b>quench</b>
Su 5/16	3500	53.9e30	870	550 (63%)	<b>SVX out, clean abort</b>
Su 5/16	3504	50.5e30	1436	1119 (78%)	<b>O<sub>2</sub>, SVX and COT out</b>
Total			9530	7712 (81%)	





## Summary

- Database problem from last week was resolved.
- Test of online beam width measurement looks promising.
- Saturday quench hit the silicon detector hard. It is important to CDF that the cause is understood. We are concerned about maintaining the silicon detector through Run II.
  - We appreciate the efforts to improve detection of malfunctions and to affect safe beam aborts.
- COT gas recirculation system ran for about 40 hours over the weekend with COT at full voltage and normal track trigger.
- Discovered a leak in COT gas system; repair in progress.